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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.  | CONFIRMATION NO. |
|-----------------|-------------|----------------------|----------------------|------------------|
| 10/680,831      | 10/07/2003  | Kristina Vogt        | Mo-6646D/LeA 34,283D | 5388             |

34947 7590 04/30/2004

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| EXAMINER |
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MARCHESCHI, MICHAEL A

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| ART UNIT | PAPER NUMBER |
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1755

DATE MAILED: 04/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AC

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|------------------------------|---|------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/680,831    | <b>Applicant(s)</b><br>VOGT ET AL. |  |
|                              | <b>Examiner</b><br>Michael A Marcheschi | <b>Art Unit</b><br>1755            |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on amendment filed 10/7/03.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 10/023,174.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/7/03</u> | 6) <input type="checkbox"/> Other: _____  |

The disclosure to because of the following informalities:

The specification is objected to because on page 1, the continuing data does not define the status of the parent application (i.e. abandoned). The continuing data must be amended to properly define the current status of the parent application.

**The specification is also objected to because the title does not reflect the subject matter of instant claim 9. The title should be amended to set forth a method.**

Appropriate correction is required.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over either (1) EP 1077241 A2 or (2) Mirsa et al.

The EP reference teaches in the abstract, sections [0006], [0018] and [0027] and the claims, a method comprising polishing a substrate containing silicon oxide and silicon nitride with a polishing slurry that comprises 2-50 wt% colloidal silica and 0.1 to about 1% of a fluoride salt. This reference does not teach the pH.

Mirsa et al. teach in the abstract, column 1, lines 1-5, column 3, lines 23-55, column 5, lines 24-39 and the claims, a method comprising polishing a substrate containing silicon oxide

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and silicon nitride with a polishing slurry that comprises 2-50 wt% colloidal silica and 0.1 to about 1% of a fluoride salt. This reference does not teach the pH.

The references teach all of the claimed features except the pH (i.e. the slurry being acidic). Although the references do not literally define the pH, this does not preclude the slurry of the references from having the claimed characteristic. It is therefore the examiners position that since the references fail to mention any specific pH (criticality), this (the absence of any such limitation) constitutes a broad teaching of pH values, thus making the claimed pH (acidic) obvious. In view of this, it can be reasonably interpreted that the claimed pH is encompassed by the broad teachings according to these references in the absence of any evidence showing the contrary (criticality). This is apparent because all slurries must have a pH.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/78116 in view of Mirsa et al. and Ina et al.

The WO reference teaches on page 3, lines 3-30 and page 6, lines 5-30, a method comprising polishing a substrate containing silicon oxide and silicon nitride with a polishing slurry that comprises 0.1-40 wt% silica and 0.5 or more of a fluoride salt. The slurry of the reference can be any pH. This reference does not specifically teach colloidal silica.

Ina et al. teach in column 8, lines 54+ various benefits of using colloidal silica, as the abrasive, in polishing compositions.

The WO reference teaches all of the claimed features except the colloidal feature. With respect to the pH, the WO reference states that the slurry can be any pH and this broadly encompasses and therefore makes obvious an acidic slurry. With respect to the use of colloidal

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silica, the WO reference teaches that any conventional polishing abrasive can be used (page 3, line 3) and since colloidal silica is a conventional polishing abrasive, as shown by Mirsa et al., one skilled in the art would have found it obvious to use colloidal silica as the silica abrasive in the composition according to the WO reference. This is apparent because the substitution of one abrasive for another that is used for the same purpose (polishing) is well within the level of ordinary skill in the art. In addition, Ina et al. clearly teaches the benefits of using colloidal silica in polishing compositions and the benefits obtained would motivate the skilled artisan to use colloidal silica. Finally, the WO reference teaches silica abrasives, in general, and the broad interpretation of silica abrasive encompasses and therefore makes obvious the colloidal form therefore absent evidence to the contrary.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grover et al. alone or in view of Mirsa et al. and Ina et al.

Grover et al. teach in column 2, line 58-68, column 3, lines 35-55, column 4, lines 18-25 and column 5, line 60-column 6, line 5, a method comprising polishing a substrate containing silicon oxide and silicon nitride with a polishing slurry that comprises 02-25 wt.% silica and 0.05-6 wt.% of a salt. For the abrasive, the reference states that the abrasive can be formed by a sol-gel method and forms a colloidal dispersion. For the salt, the reference states that this includes any water soluble inorganic salt.

With respect to the salt, the reference states that any inorganic salt can be used and this broadly encompasses and therefore makes obvious a fluoride salt because a fluoride salt is water soluble absent evidence to the contrary. In view of this, one reading the disclosure of the

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primary reference can interpret the salt to be a fluoride salt. With respect to the abrasive, the primary reference states that the abrasive forms a colloidal dispersion and this implies that the abrasive is colloidal in nature (i.e. encompasses colloidal silica) in the absence of any evidence showing the contrary. The same is true about the sol-gel formation of the abrasive. This implies that the abrasive is a silica sol (i.e. colloidal silica). In the alternative, one skilled in the art would have found it obvious to use colloidal silica as the silica abrasive in the composition according to Grover et al. because this type of silica is notoriously well known in polishing compositions, as shown by Mirsa et al., and the substitution of one abrasive for another that is used for the same purpose (polishing) is well within the level of ordinary skill in the art. In addition, Ina et al. clearly teaches the benefits of using colloidal silica in polishing compositions and the benefits obtained would motivate the skilled artisan to use colloidal silica.

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

**"A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968)". In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.**

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**"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".**

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548.  
Evidence of unexpected results must be commensurate in scope with the subject matter claimed.  
*In re Linder* 173 USPQ 356.

The additional references cited on the 1449 have been reviewed by the examiner and are considered to be art of interest since they are cumulative to or less than the art relied upon in the above rejections.

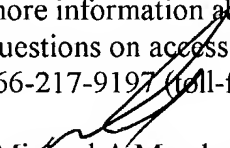
Any foreign language documents submitted by applicant has been considered to the extent of the short explanation of significance, English abstract or English equivalent, if appropriate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

4/10/04  
MM

  
Michael A Marcheschi  
Primary Examiner  
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